

Notice of Allowability

Application No.

10/683,838

Examiner

Allyson N Trail

Applicant(s)

HSIEH ET AL.

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/01/2004.
2. ☒ The allowed claim(s) is/are 1-7.
3. ☒ The drawings filed on 10/9/2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Amendment

1. Receipt is acknowledged of the Amendment filed December 1, 2004.

Remarks

2. The previous Office Action indicated that claims 1-7 were in condition for allowance except for minor claim objections. The current amendment has overcome the previous objections. Therefore claims 1-7 are allowable.

Allowable Subject Matter

3. Claims 1-7 are allowable over prior art.
4. The following is an examiner's statement of reasons for allowance: The best prior art of record, taken alone or in combination, fails to specifically teach or fairly suggest the stacked small memory card to be set in an electric device, disclosed in the current invention. Although prior art has teachings of stacked small memory cards, the prior art taken of record fails to teach each of the specific and detailed limitations of the claimed stacked card. These features include the stacked small memory card comprising an upper and lower memory card. Both upper and lower memory cards include a substrate, at least one memory chip, a heat sink, and a glue layer. The respective substrates are formed with an upper and lower surface. For the upper memory card, the upper surface of the substrate is formed with a plurality of connected points and golden fingers. For the lower memory card the connected points and golden fingers are formed on the lower surface of the substrate. The golden fingers of both the upper and lower memory cards are electrically connected to the plurality of connected points and a

plurality of through holes, which are filled with metal. The through holes penetrate the upper surface to the lower surface. The both the upper and lower memory cards include at least one memory chip. In the case of the upper memory card, the chip is mounted on the upper surface of the substrate. The chip is mounted on the lower surface of the substrate in the lower memory card. The memory chip in both the upper and lower memory cards is connected to the connecting points of the substrate. The upper memory card's heat sink is mounted on the lower surface of the substrate and is contacted with metal, which is filled within the through holes. The heat sink is mounted on the upper surface in the lower memory card. Each card includes a glue layer coating the memory chip, which is used to arrange in an electric device, so that, the golden fingers of the substrate may be electrically connected to the electric device. The first sink of the upper memory card is mounted on the heat sink of the lower memory card.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.trail@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
January 6, 2005

Jared J. Fureman
JARED J. FUREMAN
PRIMARY EXAMINER